BOROUGH OF CHATHAM.

Medical Officer's Report.

1897.

CHATHAM:

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BOROUGH OF CHATHAM.

Area in Acres 4,443,298. Population, (Census 1891) 31,657.

Males 17,076. Females 14,581.

To the Mayor and Corporation.

Gentlemen,

It is my privilege to report to your Council on the general sanitary condition of the Borough during the year ending December 31st, 1897, to review the causes affecting the health of the locality, and to summarise the action taken for preventing the spread of disease. Much has been done during the past few years to conduce to the sanitary welfare of the population, but there are many directions in which improvement can take place, some of which I shall indicate in connection with various subjects dealt with in the present Report. It is gratifying to see the general desire amongst members of the Council to rise to their responsibilities in the safeguarding of the public health, and to realise that it is a false economy to curtail expenditure on such undertakings as are calculated to lessen disease and mortality. The cardinal conditions of good sanitation are pure air, pure water, good drainage, wholesome food, proper clothing, suitable dwellings, and a dry subsoil, and to endeavour to secure these benefits to the people whose interests they represent, should be the prime aim of every municipality.

Population.—I have estimated the population of the Borough up to the middle of 1897 at 34,926, and have arrived at these figures by assuming that the ratio of increase during the present intercensal period is in the same proportion as in the ten years 1881-1891.

Births.—The total number of births registered during the year was 1,023—males 510, females 513. This is the largest number of births registered in any year since 1888, and is equal to a birth-rate of 29·3 per 1,000.

Deaths.—The total number of deaths registered was 604, out of which number 135 occurred in the public institutions of the district, viz.; 113 in the Medway Union Workhouse, and 22 in Melville Hospital. Some of the deaths occurring in these institutions were of persons belonging to other localities, and must be deducted from the above total, whilst the deaths of those persons belonging to the district, but dying outside will have to be added. These latter deaths are those occurring in St. Bartholomew's, and in St. William's Hospital, both situated in Rochester. The corrected total is as follows:

Total deaths registered	604
Deductions	40
	564
Additions	32
	596

Rate of mortality 17.1 per 1000.

The deaths registered during each month of the year were—in January 38, February 37, March 57, April 47, May 40, June 36, July 55, August 88, September 52, October 45, November 50, December 59.

The numbers in each quarter are as follows:

First Quarter	132
Second Quarter	123
Third Quarter	195
Fourth Quarter	154

The above figures show that with the exception of the month of August, when the mortality was considerably increased by the prevalance of Infantile Diarrhœa, there was no marked variation in the monthly returns. The first half of the year was very healthy, and with the exception of the special cause during August, there was no excessive prevalence of disease. In the following table will be found the births, deaths, and estimated population during the past ten years—

Year.	*Population.*	*Births.*	*Deaths.*	*Birth Rate.*	*Death Rate.*
1888	30,086	1,009	552	33·5	18·3
1889	30,609	956	541	31·2	17·3
1890	31,132	972	615	31.2	19·7
1891	31,567	932	600	29·4	18·7
1892	32,310	974	576	30·1	17·8
1893	32,974	941	620	28·5	18·9
1894	33,257	902	509	26·9	15.2
1895	33,880	979	592	28·9	17·5
1896	34,503	1,000	583	29·06	17·0
1897	34,926	1,023	506	29·3	17·1

The death rate for the past ten years has engaged 17·7 per 1,000. It is not a high death rate as compared with that of some of the large towns, but I am of opinion that with the natural advantages of the locality, its abundance of open space, its magnificent water supply, and a population largely augmented by soldiers and sailors at that period of life when the average mortality is low—it should be lower still, and I venture to hope that with the introduction of improved methods of sanitation there will be a commeasurate decrease in the general mortality.

The number of deaths occurring at different ages was as follows—

Under 1 year	158
1 and under 5 years	67
5 ,, 15 ,, ...	23
15 ,, 25 ,, ...	36
25 ,, 65 ,, ...	178
65 and upwards	134

The above grouping into ages is in accordance with the Local Government Table A, which I have filled in and appended to this Report.

A more correct appreciation of the mortality in various parts of the Borough is gained by dividing it into separate localities. For this purpose I have used the Municipal Wards of St. Mary, Luton and St. John, as well as the Workhouse, and Melville Hospital. The number of deaths registered in each of these divisions was as follows—

St. Mary's Ward	159
Luton Ward	182
St. John's Ward	128
Medway Workhouse	113
Melville Hospital	22

By ascertaining from the rate books the number of houses in each Ward, and thus making an approximate estimate of the population the mortality in each division is calculated, and is for

St. Mary's Ward	15·1 per 1,000
Luton Ward	13·1 ,,
St. John's Ward	12·0 ,,

The infant mortality or proportion of deaths under 1 year of age to every 1,000 births is 155 per 1,000 as compared with 123 during 1896, when this rate was very low. The excess is due to the large number of deaths from Infantile Diarrhœa.

A large infantile mortality is always an unsatisfactory feature, and its causes are many and varied. The above figures mean that 15 per cent. of the children born during 1897, died before reaching the age of one year, and it may safely be asserted that a great many of these lives might have been saved, had those who have the care of these infants been less ignorant or neglectful of them. The employment of female labour in factories, and the consequent loss of mother's care, the administration of inadequate, and improperly prepared food, the neglect and carelessness associated with the nursing out of infants during the mother's absence at work, and the general want of cleanliness and ventilation which is so frequent a feature in many dwellings are all important contributory causes. In some localities "creches" have been established where for a trivial charge, babies who have to be deprived of a mother's care, while she is at work, are taken in and properly fed and kept clean by nurses qualified by training for such duties. I commend the suggestion to the charitably disposed of Chatham.

Sex.—The total number of deaths registered amongst males was 326, and females 278.

From diseases of the Respiratory Organs, excluding Phthisis, there were 87 deaths as compared with 84 during 1896, and 75 during 1895. Table II shows the number of cases from this class of disease during each quarter of the year.

From Phthisis, or Tuberculosis, there were 75 deaths as against 84 in 1896, and 95 in 1895. The death rate from Phthisis is 2·2 per 1,000.

Diseases of the Heart caused 60 deaths, and 15 deaths were caused by different forms of violence.

Diseases of the Zymotic Class, including 6 who died in Institutions outside the District, caused 90 deaths as compared with 115 in the previous year. The mortality from this class of disease is 2·2 per 1,000. The deaths were due to the following diseases—Scarlet Fever 1, Diphtheria and Membranous Croup 15, Enteric and other Fevers 8, Whooping Cough 21, and Diarrhœa 45.

As this class of disease is one where much can be done to prevent and limit its further spread, it is necessary to review the history of the various Infective Fevers during the year, and to indicate the measures taken for their prevention.

Taking them in the order named, Scarlet Fever or Scarlatina comes first. 110 cases were notified during the year, and 64 were removed to St. William's Hospital. During the previous year 134 cases were reported and 111 were removed, and I am of opinion that with a larger percentage of removals there would have been fewer notifications. In small houses where there are several children it is impossible to properly isolate a case, and is almost invariable to find that when the patients are treated at home others in the same household contract the malady. The mortality is strikingly low, only one death in 110 cases. It is this mildness of type which is the most potent factor in causing the continuance of the disease, because so many cases are unrecognised and not treated at all, but are just as capable of transmitting infection as a more severe case would be.

Of Diphtheria and Membranous Croup 121 cases were notified, and there were 15 deaths or about 12 per cent. of those attacked. In 1896 the notifications were 214, and there were 15 deaths or about 12 per cent. of those attacked. In 1896 the notifications were 214, and the deaths were 58 or 27 per cent, so that not only is there a considerable decrease in the number of cases, but the disease is evidently milder in character. In my Report for 1896 I traced the history of the disease from its onset in November 1895 to the end of 1896, and will in the present Report continue from that date. During the month of January 19, cases were reported, 15 of which were in the Luton District; and in February 17 cases, 8 being in Luton; there were 13 cases in March, of which only 4 were in Luton, making a total of 49 during the first quarter of the year, as compared with 58 during the like period of the previous year. In April 13 cases occurred, in May there were 8 cases, and in June only 2 cases, making 23 for the second quarter, as against 24 during the second quarter of 1896. During July 6 cases were reported, whilst in August the numbers rose to 17, but in September dropped again to 3 cases, making a total of 26 for the third quarter, there being 67 during the same period of 1896. In October there were 8 cases, in November there were 10, and in December 5 cases, making a total of 23 as compared with 65 in 1896.

The chart appended to the Report shows in diagrammatic form the progress of the disease during the year.

The numbers occurring in separate localities were as follows—

St. Mary's Ward	24
Luton Ward	71
St. John's Ward	25
Medway Workhouse	1

The numbers affected at different ages were—

Under 2 years	7
2 to 5 years	31
5 to 10 ,, ...	55
10 to 15 ,, ...	10
Over 15 ,, ...	15

72 cases were removed to St. William's Hospital, and 5 to Fort Pitt. Number of households affected 97.

The following table show the number of cases of Diphtheria occurring during each quarter of the past five years—

	1893	1894	1895	1896	1897
First Quarter ...	3	8	3	58	49
Second Quarter ...	8	15	3	24	23
Third Quarter ...	11	7	2	67	26
Fourth Quarter ...	11	6	21	65	23
	33	36	29	214	121

The above figures show that the outbreak is diminishing in intensity. It is neither so numerous, nor so fatal as in 1896, but it dies hard, and from time to time renewed groups of cases occur, evidently owning a common cause, as is evidenced by their being confined to a particular street or block of dwellings, where the children ate presumably in frequent communication with each other.

A reference to my Report for 1896 will show that I dealt in some detail with the various theories respecting the causation and spread of Diphtheria, and I feel more strongly than ever that the principal factor in the spread of this disease is the personal factor. It is the unrecognised case which does the mischief, and I feel certain that over and above the cases which are reported by medical men there are others, perhaps milder in character, but equally infective, which are never seen or treated, but which attend School, and mix with other children, and so produce a crop of cases. It is easy to prevent school attendance, when a case is notified, but if all school teachers would make a practice of at once excluding every child with the slightest sign of soreness of the throat, they would render considerable help to the sanitary authority, and would greatly help to limit the spread of such a malady as Diphtheria.

On March 3rd, in consequence of the continued prevalence of Diphtheria in ths Borough, Dr. R. D. Sweeting of the Local Government Board held a conference with myself, the Chairman of your Sanitary Committee, the Town Clerk, and the Borough Surveyor, with a view of assisting us in the attempt to mitigate the spread of the disease. He cordially agreed with the continuance of the means adopted, strongly supported the suggestion made in my previous Reports respecting the desirability of acquiring and maintaining an efficient disinfecting apparatus, and advised the distribution of bills and leaflets setting forth plain instructions to householders as to the precautions and treatment suitable to cases of Diphtheria. In accordance with Dr. Sweeting's suggestion I drew up a handbill, copies of which were distributed from house to house. The routine practice adopted in this as in all other infective diseases is to (1) Secure hospital isolation if possible, (2) Check all school attendance from an infected household, (3) Disinfect the rooms and clothing.

Any sanitary defects that are discovered are brought before your Sanitary Committee by the Inspector; and where practicable are remedied.

There were 19 cases of Fever notified during the year, 17 due to Enteric or Typhoid Fever, 1 to Continued Fever and 1 to Puerperal Fever. 8 cases were removed to St. William's Hospital, and there were 8 deaths, viz.: 6 Enteric, 1 Continued, 1 Puerperal Fever. The Borough is fortunate in having such a small amount of Enteric Fever, considering its close proximity to the neighbouring Borough of Maidstone, and the frequent inter-communication between the two towns. One case which proved fatal was clearly traceable to infection received at Maidstone.

Whooping Cough caused 21 deaths; all amongst children under 5 years. Like Measles, from which the Borough has been very free during 1897, this is a disease about which much misconception and ignorance exists. Every old woman has a remedy for Whooping Cough and Measles, and especially with the first disease proper precautions against chill are not taken, and the majority of deaths are due to Secondary Bronchitis or Pneumonia. Both Whooping Cough and Measles claim yearly an enormous death roll, aggravated by careless management in consequence of the popular idea that they are trivial in character.

Diarrhœa caused the largest number of deaths of any Zymotic disease, 45 being registered, and being almost entirely amongst infants under 1 year. Nearly the whole of these deaths occurred during July and August, there being 7 in the former month and 34 in the latter. In discussing the infantile mortality I have mentioned certain causes which would influence this disease. Bottle fed infants are the greatest sufferers, and the end of a hot summer is the season of greatest prevalence. Posters embodying suggestions advisable during hot weather were circulated, but unfortunately many poor people are not only condemned to live in close ill ventilated dwellings where the proper storage of food is impossible, but they are careless and neglectful of such simple precautions as the boiling of milk and cleaning of feeding bottles, and are apt to administer unsuitable and improperly prepared diet to their infants.

Of Erysipelas 76 cases were notified.

The total number of certificates under the Infections Diseases Notification Act was 332, classified as above.

In my last Report in discussing the subject of disinfection which I have for some time thought to be imperfectly carried out, I expressed the opinion that the method of sulphur fumigation was in many respects unsatisfactory, and after some inquires your Council sanctioned the purchase of an Equifex sprayer, which has now been in constant use for some months. The method by sulphur meant the giving up of a room or household for practically the whole of a day, whilst with the present method a small room can be satisfactorily sprayed in half an hour. A solution of mercurie chloride 1 in 1000 was used for some time, and although I have not known or heard of any ill effects resulting from its use either here or in other localities, I have felt that its poisonous nature introduced an element of danger, which as far as possible it was desirable to eliminate, and the disinfection is now carried out by a non-poisonous substance known as chinosol, which is equally efficacious and cheap.

I also advocated the purchase of a steam disinfecting apparatus, in order to deal with the heavier articles of clothing such as blankets and bedding, which it is impossible to purify by any other means. During the conference with Dr. Sweeting he also recommended that some such apparatus be procured, and acting under instructions from your Committee I obtained prices and particulars of various apparatus. A proposal that we should unite with Rochester in the joint purchase of a steam disinfector was entertained, and a meeting between representatives of both Sanitary Authorities took place with the result that it was decided each authority should act separately in this matter. I regret that after a considerable amount of talk your Committee decided against the purchase of this apparatus, but I trust that it may again be considered. If disinfection is done at all it ought to be done effectually, and it can only be done effectually by the use of proper appliances.

The question of Main Drainage stills looms prominently in front of the many which present themselves before you, and I am glad to know that a large proportion of your Council are impressed with the opinion that drainage should be carried out, and are determined that the obsolete and old fashioned cesspool shall be replaced by the modern system of water carriage. The ultimate disposal of sewage is a vexed question. The principal methods of purification may be classed under two heads:

1st—Chemical precipitation.

2nd—Oxidation of organic matter by nitrifying bacteria.

The first named process has been in use for many years, and a very great variety of substances have been used for the treatment of sewage. The second process is much more recent, and at present is still under trial, but the results so far seem to warrant the opinion that it is in this direction that a satisfactory solution of the sewage problem will be found. It is not in a Report of this nature that one expects a comprehensive survey of the subject of sewage disposal, and it is only in view of the fact that your Council have appointed a Committee to visit and report on the methods in use at various places that I have ventured to introduce this short notice of it. Briefly, this bacterial treatment of sewage as carried out in the instalment at Exeter, claims the following advantages—

1st—It receives crude sewage without the addition of chemicals, thereby being less expensive.

2nd—That in the septic tanks all solids are converted into liquids and there is no sludge to be got rid of.

3rd—The filters are fed by automatic action.

4th—An effluent is produced fit to be turned into a river.

In consequence of the numerous complaints respecting the non-removal of dust bin refuse, an inquiry was held on May 14th by Dr. Bruce Low of the Local Government Board, with regard to the scavenging arrangements in force in the Borough. I am not in possession of his Report, and am not aware that the Local Government Board have made any further communication on the subject. Your Council during the year terminated the contract then existing, and the work is now done by men and carts directly employed by the Corporation. The work appears to be done more effectually, but in some parts of the district, a rather long period elapses between the visits of the men. This is inevitable under the present method, and in hot weather is liable to create a nuisance. Formerly the contract was to be carried out fortnightly, but at present the Borough is divided into sections, and the carts have instructions to call at every house until the particular section is completed, and then begin again. A daily collection is carried out in the High Street, and works very well.

In consequence of the deplorable epidemics of Typoid Fever at Maidstone, and at King's Lynn, public attention throughout the country has been largely directed to the condition of water supplies. In this Borough we have every reason to be satisfied with the quality of the water supplied to the consumers. Drawn from deep wells in the chalk formation it is abundant in quantity and excellent in quality. The Waterworks Company are fully alive to their responsibilities in the matter, and there is little fear of the supply being contaminated at its source, or before its delivery into the mains. A recent analysis made by Professor Dewar, and which has been published by the Company, shows the water to be exceedingly pure, and free from organic impurity. The Company have decided to have chemical analysis of their water twice a year, and have under consideration the questions of occasional bacteriological examination.

During the year several samples of water drawn from wells and pumps have been examined with the result that many of them were found to be polluted by organic matter, and have now been closed. There are now but few wells remaining in the Borough.

The Slaughterhouses in the district have been regularly inspected, and every care is taken to maintain them in as cleanly a condition as possible, otherwise stituated as they are a serious nuisance would be likely to arise.

The Common Lodging Houses are also periodically inspected to to see that proper cleanliness is carried out, and that the requirements as to cubic space are observed.

The sanitary supervision of bakehouses, dairies and cow sheds, and workshops has been attended to, and I am persuaded that the inspection of these places is attended with great benefit to the public.

Old prejudices are with difficulty overcome, and there is a tendency in some instances to resent the visits of your officials, especially amongst those people whose ideas of cleanliness are ill-defined, but these are getting fewer in number, and I am glad to report that the general condition of the bakehouses and cowsheds is far in advance of what it was when these inspections were first made.

The subject of Bye-Laws still awaits the consideration of your Council.

Besides the inspections above mentioned there have been several others of a minor character, some of which have been the subject of various special Reports to your Sanitary Committee. With the growth of the Borough during the past few years the duties of a Sanitary Inspector have largely increased, and especially since the adoption of the Infections Diseases' Notification Act. I consider that with the present staff it is impossible to adequately carry out the necessary duties, and would therefore suggest for your consideration the question of appointing an additional Assistant Inspector.

I remain, Gentlemen,

Your obedient servant,

J. HOLROYDE,

Medical Officer of Health.

Chatham,

February 24th, 1897.

Appended are the following Tables—

TABLE I. Inspectors' Report of Sanitary Work completed during 1897.

TABLE II. Showing Births, Deaths, and Rate of Mortality in 1897.

TABLE III. Showing Deaths from all causes, and from certain special causes during each quarter of 1897.

TABLE A. Showing Deaths during 1897, classified according to Diseases, Ages and Localities.

TABLE B. Showing Population, Births and New Cases of Sickness during 1897, classified according to Diseases, Ages and Localities.

TABLE I.

Inspector's Report of work done in Sanitary Department for the year ending, 31st December, 1897.

Complaints received removal of House Refuse ...	
Houses Disinfected	194
House Inspected ...	372
Wells Closed	8
Orders issued for Sanitary Amendment of premises ...	151
Privies Rebuilt ...	10
Privies Repaired ...	13
New Cesspools built	17
Cesspools Ventilated	115
Privies fitted with Pans ...	67
Drains fitted with Yard Gullies...	148
Drains Cleared ...	20
Drains Repaired ...	3
Drains Cut Off ...	4
Premises Paved ...	65
Premises Limewashed ...	3
Cowsheds Limewashed ...	3
Manure Pits Provided ...	3
Manure Heaps Removed	6
Animals kept so as to be a nuisance	6
Ashbins Provided...	13
Registered Slaughter Houses	18
Ditto Bake Houses...	35
Ditto Cowsheds	18
Ditto Lodging Houses	12
Seizure of unsound Food	none

TABLE II.

Showing Births, Deaths, and Rate of Mortality in 1897.

Births.	Deaths.	Birth rate.	Annual Rate of Mortality per 1,000, from				
			All causes.	Seven Principal Zymotic Diseases.	Phthisis.	Lung Diseases.	Heart Disease.
1,023	596	29·3	17·1	2·2	2·2	2·5	1·7

TABLE III.

Showing Births, Deaths from all causes, and from certain special causes, during each Quarter of 1897.

Quarter ending	Births.	Deaths.	Deaths from			
			Seven Principal Zymotic Diseases.	Phthisis.	Diseases of Lungs.	Heart Disease.
March 31st.	266	132	10	12	24	11
June 30th.	249	123	6	16	18	17
September 30th.	250	195	60	25	15	11
December 31st.	258	154	6	22	30	21

(A) *Table of Deaths during the year 1897, in the Chatham Urban District, classified according to Diseases, Ages, and Localities.*

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHED DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																
	At all ages.	Under 1 year.	1 & under 5.	5 & under 15.	15 & under 25.	25 & under 62.	65 & upwards.		Scarlatina.	Diphtheria.	Membranous Croup	Enteric or Typhoid Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Influenza.	Injuries.	All other Diseases.	Total.
ST. MARY'S WARD..	159	54	24	3	7	42	29	Under 5		3	1				1	9	11			17			2	33	77
								5 upwds.											18	8	17		3	36	82
LUTON WARD..	182	61	20	11	9	46	55	Under 5	1	1					1	6	20		3	12	1		2	32	78
								5 upwds.		5	1							1	17	21	16	1	2	39	103
ST. JOHN'S WARD..	128	39	18	2	7	27	36	Under 5		1						5	13		1	9	1		1	25	56
								5 upwds.				1		1					11	7	9		1	42	72
MEDWAY WORKHOUSE ..	113	4	2	1	5	50	51	Under 5								1			1	1				3	6
								5 upwds.							1		1		22	6	13		1	63	107
MELVILLE HOSPITAL.. ..	22				7	14	1	Under 5																	
								5 upwds.				2	1						2	5	3		3	6	22
TOTALS..	604	157	64	17	35	179	152	Under 5	1	5	1				2	21	44		5	39	2		5	93	218
								5 upwds.		5	1	3	1	1	1		1	1	70	47	58	1	10	186	386
THE SUBJOINED NUMBERS HAVE ALSO TO BE TAKEN INTO ACCOUNT IN JUDGING OF THE ABOVE RECORD OF MORTALITY.																									
Deaths occuring outside the district among persons belonging thereto.	32	1	4	6	2	17	2	Under 5		2													3	1	6
								5 upwds.		1		3							1	4	1		1	15	26
Deaths occuring within the district among persons not belonging thereto.	40		1		1	18	20	Under 5								1									1
								5 upwds.							1				6	4	5		1	22	39

(**B**) *Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Chatham Urban District; classified according to Disease, Age, and Locations.*

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	Population of all ages		Registered Births.	Aged under 5 or over 5.	New cases in sickness in each locality, coming to knowledge of the Medical Officer of Health.							Cases removed from homes in several localities for treatment in Isolation Hospital.		
	Census 1891.	Estimated to middle of 1895.			Scarlatina.	Diphtheria.	Membranous Croup.	Enteric or Typhoid Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Scarlatina.	Diphtheria.	Enteric Fever.
ST. MARY'S WARD		10365		Under 5	3	12	1	3			5	3	7	
				5 upwds.	12	11		5			20	7	11	4
LUTON WARD		13865		Under 5	14	16	1				6	9	9	
				5 upwds.	43	54		3			23	32	29	1
ST. JOHN'S WARD		10696		Under 5	12	8					4	5	5	
				5 upwds.	24	17		6	1	1	11	16	14	3
MEDWAY WORKHOUSE.. ..				Under 5	1							1		
				5 upwds.	1	1					13	1	1	
TOTALS	31657	34926	1023	Under 5	30	36	2	3			15	18	21	
				5 upwds.	80	83		14	1	1	67	46	55	8